



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/805,066

03/19/2004

Bennett M. Butters

385478006US

7922

25096

7590

09/23/2004

PERKINS COIE LLP

PATENT-SEA

P.O. BOX 1247

SEATTLE, WA 98111-1247

EXAMINER

KIM, PAUL L

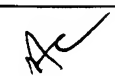
ART UNIT

PAPER NUMBER

2857

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/805,066</p>	<p>Applicant(s)</p> <p align="center">BUTTERS, BENNETT M.</p>	
	<p>Examiner</p> <p align="center">Paul L Kim</p>	<p>Art Unit</p> <p align="center">2857</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13 and 15-21 is/are rejected.
- 7) ☒ Claim(s) 5 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: The word "the" is repeated twice in part d and part i. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-9, 12, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells.

With regard to claims 1 and 6-9, Wells teaches a system for detecting a material comprising: a data storage device (fig. 2, part 36), a detector assembly including a detector coil (fig. 2, part 10), signal conditioning components (fig. 2, parts 20, 30, & 32), and a computer (fig. 2, part 36) that further comprises a means for processing the signal by: placing a gas sample near a detector coil to generate an electromagnetic time-domain signal (fig. 2, part 14), conditioning the signal to convert the signal to an amplified signal (fig. 2, part 30), filtering the signal (fig. 2, part 32), cross-correlating the filtered signal (fig. 2, part 36), and determining whether the spectrum contains low-frequency signal components that are characteristic of the selected material (col. 7, lines 1-5). Wells does not specify a frequency range for data sets that are passed by the

filter and are cross-correlated. However, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to use a frequency range between DC and 50KHz, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233 (CCPA 1955)).

With regard to claims 12, 16, and 19-21, Wells teaches a method and system for detecting a material comprising: placing a gas sample near a detector coil to generate an electromagnetic time-domain signal (fig. 2, part 10), conditioning the signal to convert the signal to an amplified signal (fig. 2, part 30), filtering the signal (fig. 2, part 32), cross-correlating the filtered signal (fig. 2, part 36), and determining whether the spectrum contains low-frequency signal components that are characteristic of the selected material (col. 7, lines 1-5). Wells does not specify a frequency range for a data set that are passed by the filter and are cross-correlated. However, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to use a frequency range between DC and 50KHz, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233 (CCPA 1955)).

4. Claims 2-4, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells in view of Barnes.

Wells does not teach detecting a fluid-like material in a sample tube wound around by a coil. Barnes teaches a method for determining chemical properties of fluid

Art Unit: 2857

in a tube by electromagnetic means (abstract). Since Wells and Barnes are both within the art of property detection of materials using a coil, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Wells so that properties of fluid are determined, in order to derive the benefit of a flexible system that can detect the properties of fluid as well as gas.

5. Claims 10, 11, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells in view of Gethner et al.

Wells does not specify identifying frequencies of signal components in the spectrum whose cross-correlations have a statistical measure above background noise. Gethner et al teaches determining properties of samples using electromagnetic means in which signal components in a spectrum that have a statistical measure above background noise are identified (abstract) and compared to an added average of frequency spectra (col. 47, lines 33-37). Since Wells and Gethner et al are both within the art of property detection of materials using an electromagnetic means, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Wells so that statistical measures are used in identification, as taught by Gethner et al, so as to derive the benefit of a highly accurate analysis system.

***Allowable Subject Matter***

Art Unit: 2857

6. Claims 5 and 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hannah et al teaches a method of operating a spectrometer to determine properties of a sample.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 571-272-2217. The examiner can normally be reached on Monday-Thursday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK  
September 15, 2004

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800